WHAT IS CLAIMED IS:

1. A control system for a motor, the control system comprising:

a voltage source for providing a DC bus current; and

an inverter having a switching circuit for regulating the DC bus current to a fixed level;

said switching circuit forcing consecutive phases of the motor to share the bus current at commutation.

2. The control system of claim 1 wherein the switching circuit includes:

a plurality of transistors coupled to the motor and the voltage source; and

a control module coupled to the transistors.

3. The control system of claim 2 wherein the control module selectively enables the transistors such that each phase of the motor has a phase turn on point that occurs before a phase turn off point of a preceding phase.

4. The control system of claim 2 wherein the control module pulse width modulates the transistors such that the DC bus current is regulated to the fixed level.

5. The control system of claim 4 wherein the inverter further includes a current measurement device for measuring the DC bus current, the control module pulse width modulating the transistors based on the measured DC bus current.

6. The control system of claim 5 wherein the current measurement device includes a resistor connected in series with a negative rail of the voltage source, the control module pulse width modulating the transistors based on a voltage drop across the resistor.

7. The control system of claim 1 wherein the motor is a three-phase DC motor.

8. The control system of claim 7 wherein the DC motor is a brushless motor.

9. An inverter for a motor control system, the inverter comprising:

a plurality of transistors; and

a control module for selectively enabling the transistors such that each phase of the motor has a phase turn on point that occurs before a phase turn off point of a preceding phase;

said control module further pulse width modulating the transistors such that the DC bus current is regulated to the fixed level.

10. The inverter of claim 9 further including a measurement resistor connected in series with a negative rail of a voltage source, the control module pulse width modulating the transistors based on a voltage drop across the measurement resistor.

11. The inverter of claim 9 wherein the motor is a three-phase DC brushless motor.

12. A method for controlling a motor, the method comprising the steps of:

determining a fixed level for a DC bus current;

regulating the DC bus current to the fixed level; and

forcing consecutive phases of the motor to share the bus current at commutation.

13. The method of claim 12 further including the step of selectively enabling a plurality of transistors such that each phase of the motor has a phase turn on point that occurs before a phase turn off point of a preceding phase, the transistors being coupled to a voltage source and the motor.

14. The method of claim 12 further including the step of pulse width modulating a plurality of transistors such that the DC bus current is regulated at the fixed level.

15. The method of claim 14 further comprising the steps of:

measuring the DC bus current; and

comparing the measured DC bus current to the fixed level.

16. The method of claim 15 further including the step of measuring a voltage drop across a resistor in series with a negative rail of the DC bus.